Abstracts

A Monolithic Integrated HEMT Frontend in CPW Technology from 10-50 GHz for Measurement Systems or Broadband Receivers (1995 Vol. I [MWSYM])

R. Heilig, D. Hollmann and G. Baumann. "A Monolithic Integrated HEMT Frontend in CPW Technology from 10-50 GHz for Measurement Systems or Broadband Receivers (1995 Vol. I [MWSYM])." 1995 MTT-S International Microwave Symposium Digest 95.1 (1995 Vol. I [MWSYM]): 211-214.

In this paper the design, performance and fabrication of a broadband frontend is shown. The frontend consists of a broadband matrix distributed amplifier with a gain of about 10 dB and a noise figure of 6.5 dB, a four stages distriuted amplifier with 5 dB gain and an output power of 12 dBm, and a distributed mixer with a conversion gain of 0 dB with LO-power of 0 dBm including the LO buffer amplifier. The active devices are 0.2 mu recessed gate AiGaAs-HEMTs and the coplanar waveguide is used as the propagation medium. The devices have been simulated by using own models for the device a nonlinear HEMT model was used. The total size of the frontend is 6 mm x 6 mm including bias networks and block capacitors.

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